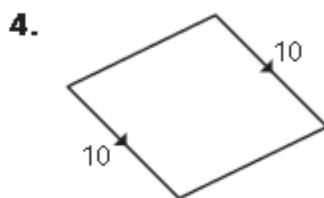
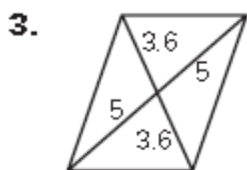
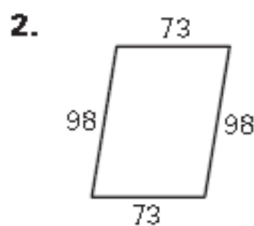
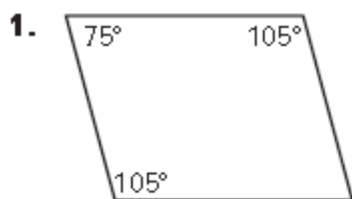


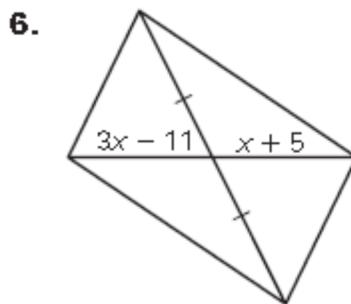
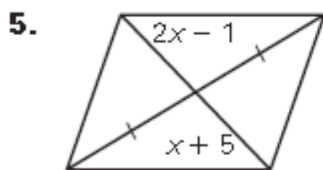
TARGET D

Name _____ Date _____

Determine if there is enough information given to prove that the following are parallelograms.

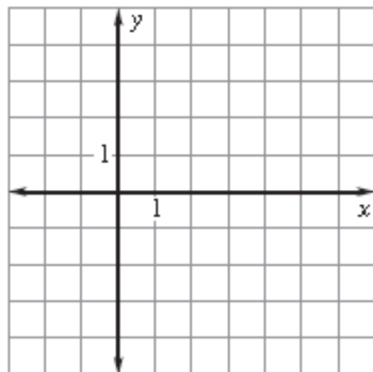


For what value of x is the quadrilateral a parallelogram?

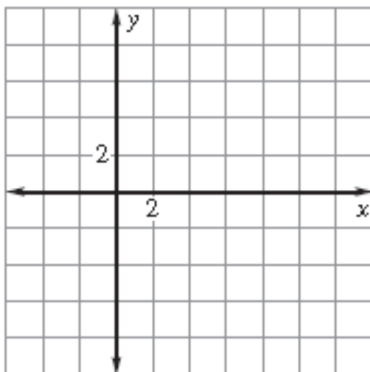


The vertices of quadrilateral $ABCD$ are given. Draw $ABCD$ in a coordinate plane and show that it is a parallelogram.

7. $A(-2, -3), B(0, 4), C(6, 4), D(4, -3)$

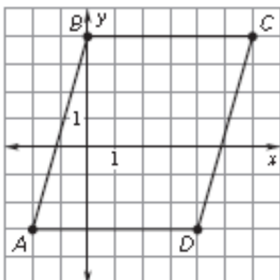


8. $A(-3, -4), B(-1, 2), C(7, 0), D(5, -6)$

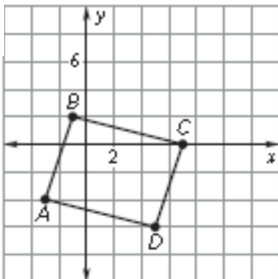


TARGET D ANSWERS

1. yes, opposite angles congruent and consecutive angles supplementary
2. yes, opposite sides congruent
3. yes, diagonals bisected
4. yes, same pair of sides congruent and parallel
5. 6
6. 8

7. 

The slope of \overline{BC} and \overline{AD} is 0, so $\overline{BC} \parallel \overline{AD}$. Also, $BC = AD = 6$. By Theorem 8.9, $ABCD$ is a parallelogram.

8. 

$AB = CD = 2\sqrt{10}$ and $BC = AD = 2\sqrt{17}$. So $ABCD$ is a parallelogram by Theorem 8.7.